LW Scientific

USA E8 Centrifuge

Instruction Manual

Model pictured:

E8 Digital Centrifuge

Not all features available on all models - see back page for model specifications.

Introduction

The LW Scientific USA E8 with Swing-out **6-place rotor** spins up to six 3.0ml-4.5ml test tubes horizontally and the USA E8 with angled **8-place rotor** spins up to eight 3.0ml-15ml test tubes. It is available in 3 models: E8F (Fixed speed), E8V (Variable speed), and E8D (Digital speed). The E8F is designed for blood separations at a fixed speed of 3500 rpm only (1534 g-force). The E8V and E8D will separate blood at 3500 rpm and can be slowed to separate other fluids at lower g-force, such as urine specimens as outlined by C.L.I.A. regulations.

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6-Place Swing-Out Rotor

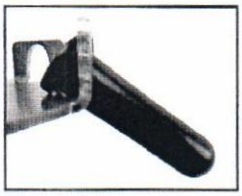
Installation and Set-up

1. Remove the centrifuge from the shipping container and inspect for any possible shipping damage. If the centrifuge appears to be damaged from shipping, please contact your distributor immediately.

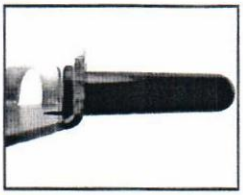
2. Read and fill out the warranty form online: www.lwscientific.com/warranty_form. The warranty form documents your purchase. Failure to complete the warranty form may void any warranty claims on the unit.

3. Place the centrifuge on a sturdy, level surface. Turn the lid latch to the UNLOCK position ("U"). Open to verify that there are no loose objects or packing material in the tube chamber and then insert all 6 black plastic tube shields into the rotor openings.

4. The tube shields will rest at a slight angle while stopped for easy loading and unloading of the test tubes and will swing out to a horizontal position while spinning, ensuring a better straight-line separation of the samples.



Angled at rest



Horizontal while spinning

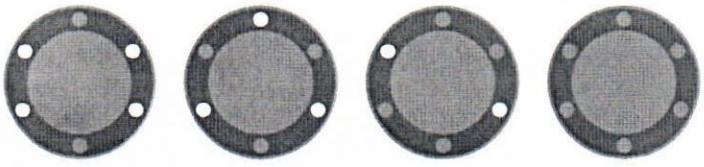
5. Verify that the power switch on the front of the unit is in the OFF position. Connect the power cable to the power supply adapter, and then connect the power supply adapter to the back of the centrifuge. Plug the power cable into an approved and properly grounded outlet. Do not insert specimen test tubes prior to initial test run.

6. Close the lid, turn the lid latch to the LOCKED position ("L") and turn power switch ON. For fixed and variable units, turn the timer to 10 minutes. For digital units, adjust speed to 3500rpm and set the timer to 10 minutes. Now press RUN. If there is a smooth whirring sound and the unit accelerates with little or no vibration, your E8 centrifuge is ready to operate. If there are loud, unusual sounds or if you experience excessive vibration, immediately turn the unit off. DO NOT OPERATE – Contact your dealer or LW Scientific, Inc.

Loading and Operation

1. The black plastic tube shields are designed to hold 3.0ml-4.5ml test tubes, which are usually 13mm diameter x 75-80mm tall. Do not insert tubes taller than 90mm.

2. Spin only balanced loads. Make sure that tube shields are filled with equal weight tubes. Tubes of equal weight and size should be placed opposite each other, or 3 in a triangle as pictured below. Use water-filled tubes for balance if necessary. Proper sample balancing will improve sample separation and will extend the life of the centrifuge. Out of balance loads may break glass test tubes or damage the centrifuge.



3. For fixed and variable speed units, the mechanical timer should always be turned past 10 minutes to engage the spring and bell. The timer can then be turned forward or backward to select time.

4. After each run cycle has ended, the lid must be opened and closed before the next cycle is run. This allows for re-loading and re-balancing each load.

WARNINGS: **Always ensure rotor is secure before each use! DO NOT OPEN WHILE SPINNING.**

8-Place Angled Rotor

Installation and Set-up

1. Remove the centrifuge from the shipping container and inspect for any possible shipping damage. If the centrifuge appears to be damaged from shipping, please contact your distributor immediately.

2. Read and fill out the warranty form online: www.lwscientific.com/warranty_form. The warranty form documents your purchase. Failure to complete the warranty form may void any warranty claims on the unit.

3. Place the centrifuge on a sturdy, level surface. Turn the lid latch to the UNLOCK position ("U"). Open to verify that there are no loose objects or packing material in the tube chamber, and that the 8 large blue tube shields and the 8 smaller black tube shields are in place and seated in the angled 8-place rotor. The smaller tube shields can be removed when spinning larger test tubes.

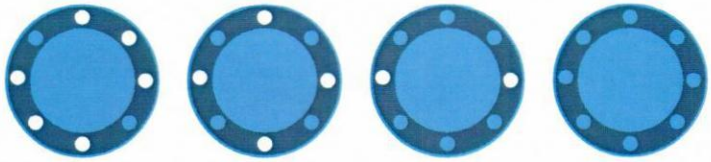
4. Verify that the power switch on the front of the unit is in the OFF position. Connect the power cable to the power supply adapter, and then connect the power supply adapter to the back of the centrifuge. Plug the power cable into an approved and properly grounded outlet. Do not insert specimen test tubes prior to initial test run.

5. Close the lid, turn the lid latch to the LOCKED position ("L") and turn power switch ON. For fixed and variable units, turn the timer to 10 minutes. For digital units, adjust speed to 3500rpm and set the timer to 10 minutes. Now press RUN. If there is a smooth whirring sound and the unit accelerates with little or no vibration, your E8 centrifuge is ready to operate. If there are loud, unusual sounds or if you experience excessive vibration, immediately turn the unit off. **DO NOT OPERATE** – Contact your dealer or LW Scientific, Inc.

Loading and Operation

1. The large blue tube shields are designed to hold large test tubes from 5ml to 15ml (17.5mm x 130mm max). The smaller black tube shields can be inserted inside the large tube shields, and are designed to hold smaller 3.0ml to 4.5ml test tubes (usually 13mm diameter x 75-80mm tall).

2. Spin only balanced loads. Make sure that tube shields are filled with equal weight tubes. Tubes of equal weight and size should be placed opposite each other as pictured below. Use water-filled tubes for balance if necessary. Proper sample balancing will improve sample separation and will extend the life of the centrifuge. Out of balance loads may break glass test tubes or damage the centrifuge.



3. For fixed and variable speed units, the mechanical timer should always be turned past 10 minutes to engage the spring and bell. The timer can then be turned forward or backward to select time.

4. After each run cycle has ended, the lid must be opened and closed before the next cycle is run. This allows for re-loading and re-balancing each load.

WARNINGS: Always ensure rotor is secure before each use! DO NOT OPEN WHILE SPINNING.

Cleaning & Maintenance

With proper care and maintenance, the E8 centrifuge will provide years of laboratory service. Please follow the following recommended guidelines:

1. Use only quality test tubes which are rated for 1534 g-force or greater.

2. Never force a tube into the tube shield. The tube shields were designed to hold the most common sized tubes, Vaccutainers, and SST's. Some plastic, conical, and glass test tubes are too large and should not be used in the E8.

3. Keep the tube shields clean. If a tube does break, either dispose of the entire tube shield (and remove the opposite shield for proper balance) or safely dispose of the sample and broken glass and thoroughly clean and disinfect the inside and outside of the tube shield. Additional tube shields are available for purchase from LW Scientific, Inc.

4. Motor and electrical maintenance: The E8 utilizes a PMDC motor and its bearings are permanently lubricated. It should not need servicing for the life of the centrifuge. Likewise, the electrical components were designed for high reliability and should not need regular service. However, if repairs should be needed, please contact LW Scientific, Inc.

Because of the safety issues with high g-forces in a centrifuge, it is recommended that rotors and tube sleeves be inspected every 6 months for corrosion and fatigue. If there is any indication of wear, the rotor and sleeves should be removed from service. Contact LW Scientific for return instructions so the rotor and tube sleeves can be evaluated by an LW Scientific technician for repair and replacement. It is also recommended that after 2 years of service, rotors and tube sleeves be returned to LW Scientific for inspection. Following these procedures will ensure safety of lab personnel as well as extend the life of the centrifuge.

Specifications

G-Force

RCF (g's)	Radius (mm)	RPM
31	112	500
80	112	800
125	112	1000
180	112	1200
245	112	1400
282	112	1500
321	112	1600
406	112	1800
501	112	2000
606	112	2200
721	112	2400
846	112	2600
982	112	2800
1127	112	3000
1282	112	3200
1364	112	3300
1450	112	3400
1534	112	3500

Maximum nominal:	3,500 RPM (+/-5%)
Maximum nominal RCF:	1,534 g
Max. Volume (6-Place Rotor):	27 ml (six 4.5ml tubes)
Max. Volume (8-Place Rotor):	120 ml
Max. Power:	12V, 6.0A
Height:	9.5 inches
Width:	11 inches
Weight:	9.5 lbs.
Boxed Dimensions:	13.5 x 12 x 15 inches
Boxed Weight:	12 lbs.

Fluid Recommendations:

	Speed	Time
Whole Blood	3500	10 min.
Urine	1800	5-10 min.

Average Speeds for Variable Unit (E8V)

Dial Setting:	*RPM Range:*
Low (7:00 position)	500 +/- 5%
Medium (12:00 position)	1700 - 1950
Medium (3:00 position)	3150 - 3350
High (5:00 position)	3500 +/- 5%

Ideal Setting for Urine (1700-1950rpm)

Ideal Setting for Blood (3500rpm)

The USA E8 Centrifuge is intended for use as a general purpose laboratory centrifuge.